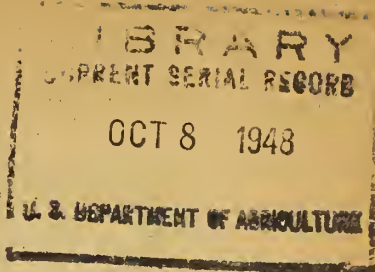


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UNITED STATES DEPARTMENT OF AGRICULTURE
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Picture Story No. 56
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INSECT DAMAGE TO STORED TOBACCO CUT
BY NEW METHODS OF WAREHOUSE SPRAYING

Entomologists of the U. S. Department of Agriculture have devised an effective way to reduce insect damage to flue-cured tobacco during storage. Thorough and timely applications of a concentrated pyrethrum-oil spray in the tobacco storage warehouse, they find, will halt the breeding of new generations of the tobacco moth and cigarette beetle that every year destroy five dollars worth of flue-cured tobacco out of every 1000 pounds in storage. Because open-type storage warehouses are necessary to hold flue-cured tobacco during its curing period, which may take from 2 to 4 years, fumigation does not provide the necessary protection against insect infestation. Screening all doors and windows with very fine-mesh wire gauze will keep the adult moths and beetles from flying into the warehouse. But there is no practical way to reach these insects in the early stages of their life cycles - as eggs or larvae - that come into the warehouse on the tobacco. Only when these insects emerge from the hogsheads as flying moths and beetles can they be reached with an insecticidal spray or dust.

Tests with many different preparations in many different combinations and concentrations over a period of 6 years showed that a concentrated pyrethrum-oil spray kills the adult tobacco moth and cigarette beetle more effectively and cheaply than the pyrethrum powders formerly used and with less effect on the tobacco. This new spray consists of certain percentages of pyrethrins - 0.2 percent for use against the tobacco moth and 1 percent for use against the cigarette beetle - mixed with a light, highly refined, very volatile oil. As a direct hit is necessary to kill the insects on the wing, the spray must be blown well over the tops of the racked hogsheads of tobacco into all parts of the warehouse. A mobile power sprayer has been specially designed for this operation.

To check the results of the different preparations tested, the entomologists hung up light-suction traps in the commercial storage warehouses where the tests were made. A count of the catch in these traps at specified intervals after each treatment of the premises provided the basis for the evaluation of the different experimental preparations. These traps, now installed in many tobacco warehouses, also show when to start spraying against the tobacco moth and cigarette beetle. A catch of 50 moths or beetles is the signal that the time for action has come.

These pictures show how Department of Agriculture entomologists ran the tests that proved the effectiveness of a concentrated pyrethrum-oil spray in the control of the tobacco moth and cigarette beetle in flue-cured tobacco storage warehouses.

(OVER)

Picture Story No. 56 - Insect Damage to Stored Tobacco Cut
By New Methods of Warehouse Spraying

(EDITORS AND WRITERS: You may obtain 8x10 glossy prints of any of the pictures here shown free on request to Press Service, Office of Information, U.S. Department of Agriculture, Washington 25, D.C.)

To prove the effectiveness of a concentrated pyrethrum-oil spray in the control of the tobacco moth and the cigarette beetle - the two most destructive insect pests of flue-cured tobacco in storage - U. S. Department of Agriculture entomologists conducted extensive tests in 24 commercial storage warehouses.

(1) These warehouses - of the open type, because air is necessary for curing this kind of tobacco - were well screened at all doors and windows.

(2) A suction-light trap hung in each warehouse provided an accurate index to the effectiveness of each control measure tested.

(3) At a stated interval after each test spraying an entomologist detached the glass container from the trap

(4) Chloroformed the insects caught in it

(5) Ran the insects through a sieve to separate the smaller beetles from the larger moths

(6) And counted the insects and recorded their numbers

(7) A special power sprayer was used to blow the concentrated pyrethrum-oil spray over the tops of the hogsheads holding the tobacco into all parts of the warehouse.